

Claims

1. A buoyancy-utilizing generating set provided with a vertically standing cylindrical tower in which a liquid is stored, a conveyor extended vertically in the shape of a loop in the interior of the tower so that the conveyor can be vertically turned, a plurality of buckets arranged on an outer side of the conveyor at predetermined intervals in the longitudinal direction of the conveyor so that openings of the buckets face in a direction opposite to the direction in which the conveyor turns, a supply means adapted to supply a gas in the form of bubbles into a bucket positioned on a portion of the side of the conveyor which is turned upward in the interior of the tower, through a downwardly directed opening of the same bucket, and a generator connected to a rotary shaft supporting the conveyor rotatably, the side of the conveyor on which the bucket is provided being turned upward by utilizing the power by which the gas supplied by the supply means into the bucket positioned on the lower portion of the side of the conveyor which is turned upward in the interior of the tower is moved up with the bucket in the liquid stored in the interior of the tower as the gas receives the buoyancy of the liquid, the generator connected to the rotary shaft rotated in the turning direction of the conveyor being rotated in accordance with the turning of the conveyor, characterized in that:

the supply means includes a gas supply means for sending a compressed gas into the interior of a front end-closed pipe provided in a lower portion of the interior of the tower, a plurality of holes of a very small diameter adapted to turn the gas sent from the gas supply means into the interior of the pipe into a plurality of bubbles of a very small diameter and send out the bubbled gas into the liquid in the interior of the tower, and provided in a dotted manner in a circumferential wall of the pipe, and a gas

introduction nozzle adapted to collect the plural bubbles of the gas sent out from the plural holes of a very small diameter in the circumferential wall of the pipe into the bucket positioned on the lower portion of the side of the conveyor which is turned upward in the interior of the tower.

2. A buoyancy-utilizing generating set according to Claim 1, wherein a gas discharged to the atmospheric air and having an exhaust pressure is used as the compressed gas sent by the gas supply means into the interior of the pipe.

3. A buoyancy-utilizing generating set according to Claim 1 or 2, wherein a flexible guide plate for sending the bubbled gas from the gas introduction nozzle into the bucket positioned in a lower portion of the side of the conveyor which is turned upward in the interior of the tower without causing the leakage of the bubbled gas to occur is provided so that the guide plate stands up from a bottom portion of the tower into the liquid in the interior of the tower and extends along the outer side surface of the bucket positioned on a lower portion on the side of the conveyor which is turned upward in the interior of the tower.

4. A buoyancy-utilizing generating set according to Claims 1, 2 or 3, wherein a sub-guide plate is provided on an outer side edge of an opening of each of the plural buckets arranged side by side in the longitudinal direction on an outer side of the conveyor so that the sub-guide plate stands up in the diagonally outward direction which is opposite to a trunk portion side of the bucket.

5. A buoyancy-utilizing generating set according to Claim 1, 2, 3 or 4, wherein a predetermined quantity of liquid is stored in the interior of the tower so that the level of an upper end of the liquid becomes substantially equal to the height of an upper end of the conveyor.

6. A buoyancy-utilizing generating set according to Claim 1, 2, 3, 4 or 5,
wherein the conveyor is made of a combination of a chain and sprockets.